

Mimicry of the Gastropod *Mitrella carinata* by the Amphipod *Pleustes platypa*

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(Plate 36)

THE PLEUSTID AMPHIPOD, *Pleustes platypa* BARNARD & GIVEN, 1960, was described on the basis of 3 preserved specimens collected off Palos Verdes, Los Angeles County, California (BARNARD & GIVEN, 1960, pp. 41 - 42; fig. 1). Because preserved specimens rapidly lose their color and have their appendages in unnatural positions, it was not apparent that in life these amphipods look remarkably like the snail *Mitrella carinata* (HINDS, 1844). In May, 1966 a single living specimen of *P. platypa* was discovered on the kelp *Macrocystis pyrifera* by the Cerritos College Marine Biology class near Point Loma, San Diego, California. Collected as *Mitrella carinata*, the amphipod characteristic was not observed until much later when the collection was examined in the laboratory. Because of the uncertainty about the maintainance of this specimen alive, it was observed briefly and then preserved.

When it became apparent that this was the only known arthropod molluscan-mimic, efforts were made to obtain more specimens for observation and photography. Finally, on September 17, 1968, 5 living specimens were collected from a *Macrocystis* holdfast floating at a depth of 15 feet off Point Dume, Los Angeles County, California. These were photographed the same day using randomly collected specimens of *Mitrella carinata* for comparison (Plate 36).

Pleustes platypa tucks its pleon up under the pereon where it is shielded from view by the enlarged and flattened protopodites of the 6th, 7th, and 8th pereonal (thoracic) appendages and the enlarged coxal (lateral) plates of the pereon. The 2 pairs of gnathopods are similarly hidden by the coxal plates. The amphipod rests at about a 30° angle, supported by the 6th, 7th, and 8th pereopods, which also serve as locomotor structures in this position. These appendages permit the amphipod to crawl slowly or launch rapidly into darting, short-distance swimming activity.

The amphipod coloration is highly variable, as is the coloration in *Mitrella*. Both specimens shown in Plate 36

have similar color patterns. This particular amphipod had a dark grey cephalon, a yellow band around the anterior half of the pereon, and graded from light brown to dark brown posteriorly. The pereopods (walking legs) often display light and dark grey or brown bands which mimic the mottling found in the foot, siphon, and eye stalks of *Mitrella*. These are contrasted with the darker coloration of the protopodites.

Judging by skin divers' reports and recorded captures, *Pleustes platypa* appears to be rare but this is probably because of the difficulty in distinguishing it from the extremely abundant *Mitrella carinata*. All specimens have been found in association with *Macrocystis*. The presently known range of *P. platypa* is herein reported as Point Loma, San Diego, California to Gaviota Beach, Santa Barbara County, California. A single observation of another as yet unidentified species of amphipod mimicking a different form of *Mitrella carinata* found in pholad holes in cobble off Point Loma, California, suggests that the whole range of polymorphism in *Mitrella* may be reflected in mitrelliform amphipods.

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LITERATURE CITED

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